BULLETIN
OF
The American Gastroscopic Society

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THE AMERICAN GASTROSCOPIC SOCIETY

June 2, 1955

HADDON HALL HOTEL

ATLANTIC CITY, NEW JERSEY

As we reported in the last issue of our Bulletin, our annual meetings will be held at The Haddon Hall Hotel in Atlantic City on June second. The scientific session will begin at two o'clock (Daylight Saving Time) in the Hotel's West Room so that we will have a good three hours for our discussions which formerly have been too restricted by the limitations of time. In the same room the usual cocktail party and banquet will follow at half after six and seven o'clock respectively. (Your intentions to drink and dine with us will be solicited later.)

Now we want to tout the programme which the Society's "administration" thinks that you'll listen to intently and participate in violently—more or less. Here 'tis in preliminary form!

I. THE GASTRIC BIOPSY
   a. The Techniques of Gastric Biopsy. Dr. C. Wilmer Wirts.
   b. The Major Contributions of the Gastric Biopsy. Dr. Paul Shallenberger.

II. THE STUDY OF EXFOLIATED GASTRIC CELLS
   a. The Collection of Gastric Cells for Cytologic Examination. Mrs. Ruth Graham.
   b. What Exfoliated Gastric Cells Can Tell. Dr. Cyrus Rubin.
   c. Basic Pathology Underlying Successes and Failures of Cyto-Diagnosis. Dr. Eleanor Humphreys.

III. OESOPHAGOSCOPY
   a. The Gastroscopist's Adaptation to Oesophagoscopy. Dr. A. R. Hufford.
   b. Instrumental Perforations of the Oesophagus and Their Treatment. Dr. John Tilden Howard.

General discussion will follow each paper.

The Society's Rudolf Schindler Award will be presented at our banquet, to which, as well as to the cocktail party, *ladies are invited*. Our after-dinner entertainment will be better than ever—we hope!

If you need other inducements, the sessions of The American Gastroenterological Asscciation will be held at The Claridge Hotel in Atlantic City on June third and fourth, meetings which are always top hole. Then these will be followed by the multi-ring convention of The A. M. A. in Atlantic City from June sixth to tenth inclusive. But our intimate group has features and attractions which the larger associations never can have. Plan to be with us on June second!

Sincerely,

JOHN TILDEN HOWARD

Distention of Bronchial Cleft Sacs During Gastroscopy

EDDY D. PALMER

Once a few years ago, as a patient sat up following gastroscopy, it was noted with a degree of shock that he had developed a prominent ping-pong-ball sized swelling in each subparotid area. The swellings were bilaterally symmetrical. On palpation they were found to be spherical, hard, smooth and not tender. Upon percussion a note was elicited which was similar to the sound one obtains by percussing the cheeks when they are tightly distended with air. The bulges, it was clear, had developed during the gastroscopy. The fact that they were on both sides of the neck, that they seemed to contain air, and that the patient said he felt fine did not relieve the mind of the examiner, who could see only two big hard tumors resulting from his manipulation. It seemed that something must have been ruptured.

The patient was taken to the radiology section for tangential films of the swellings. When he got there, the swellings were gone. Nothing abnormal could be seen about his neck or inside his mouth or pharynx. Palpation was normal.

Since this first experience, the phenomenon has been encountered on three other occasions. Twice the swelling on one side has been larger than that on the other. None of the patients had ever had bulging of the areas before.

It has been found that there usually is spontaneous disappearance in about half an hour. The swellings can be pressed flat by steady gentle pressure in a minute or two. It has never been possible to see any bubbling within the mouth or throat to indicate the site of an orifice through which air was passing from the swellings. Stensen's ducts were not taking part.

It is presumed that the swellings represent persisting branchial cleft sacs, probably cleft IV, into which air is forced during the patient's straining. The tongue and soft palate must be used to close the air passages during forced expiration, rather than the glottis, as is more usual. Air which is forced into the sacs is under high pressure, judging by their hardness.

Two Unusual Causes for Failure to Pass the Gastroscope

EDDY D. PALMER

CASE 1. A 56-year-old man was proposed for gastroscopy during study of chronic epigastric pain. There had been no dysphagia. At the age of 24 he had had an emergency tracheotomy under difficult conditions for what in retrospect appeared to have been acute laryngeal edema. Later tracheal stenosis with adherent skin scar led to three plastic operations and a series of tracheal dilatations. Examination now showed a broad contracting skin scar, without limitation of extension of head and neck. The larynx and trachea were fixed in the midline. Films (Fig. 1) showed moderate tracheal stenosis.

At gastroscopy the instrument could be passed beyond the larynx but no further, due to fixation of the anterior hypopharyngeal structures. The whole region was unexpectedly rigid. At direct hypopharyngoscopy no abnormality could be seen, but palpation with the laryngoscope gave the sensation of a frozen pharynx.

CASE 2. This 61-year-old woman was studied because of six months of progressive dysphagia and weight loss. Examination was not informative. Upon X-ray study it was found (Fig. 2) that the gastric fundus was depressed and its left lateral aspect was deformed. It was thought that there was probably a fundal carcinoma with invasion of the cardia. At esophagoscopy it was possible to reach

the esophagogastric junction but no further because of anterior shift of the cardia. No tumor was seen. A biopsy taken just below the mucosal junction later showed only normal cardial mucosa. The gastroscope was then passed, but obstruction was met at the cardia and it was not possible to go further.

Then followed a three-month hospitalization, with fruitless laparotomy, rapid decline, and eventual death and autopsy. The final diagnosis was carcinoma of the ovary with widespread metastasis. There was a tremendous implant beneath the left leaf of the diaphragm and this had shifted the gastric fundus medially, inferiorly and anteriorly. There was no intrinsic disease of esophagus or stomach.

Diagnosis of Gastric Lesions— Report of 2 Cases

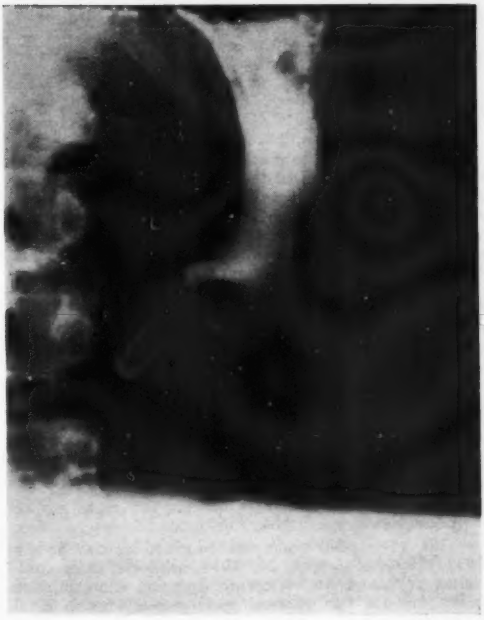
DAVID F. KAPP, M.D., AND
PAUL L. SHALLENBERGER, M.D.

In the absence of obvious clinical, x-ray, or gastroscopic changes, the early diagnosis of gastric carcinoma remains a challenge to the medical profession. The following two case reports may help to point out some of the obstacles encountered in the arrival at a correct diagnosis of obscure gastric lesions.

CASE NO. 1. B NO. 114880

This 40-year-old male was admitted to the Robert Packer Hospital, July 2, 1952, with the chief complaint of epigastric burning relieved by milk or food. Nine years previously he had his first gastro-intestinal upset following induction into the armed forces when he developed watery diarrhea that persisted intermittently for two or three years. He was then asymptomatic until 1945 at which time he developed nausea and vomiting following the ingestion of a "few" bottles of beer. This was followed by a "swelling" to the right of the umbilicus. He was in an Army hospital for one month and was treated with multiple injections during which time symptoms and the "mass" subsided. Except for occasional episodes of unexplained nausea and vomiting, he got along well until June, 1952, when he developed epigastric burning relieved by food or milk. There was no specific food intolerance and no history of jaundice, melena, or hematemesis. There had been a ten pound weight loss during the five year period prior to admission. He had been on ulcer type of therapy for a few weeks prior to admission with partial relief of symptoms. Physical examination revealed a blood pressure of 110/68 and a pulse of 90/min. Complete examination was

essentially negative except for adentia and the presence of tenderness just below the xyphoid process. Urinalysis, blood count, urea nitrogen, and blood sugar and amylase were all in normal limits. Gastric analysis using histamine revealed an achlorhydria. Steroscopic chest x-ray revealed healed calicified primary complex. X-rays of the gallbladder and colon were normal. Gastroduodenal x-ray revealed hypertrophic rugae and a deformity of the greater curvature of the stomach. In addition there was an indentation of the gastric wall above the angulus on the lesser curvature thought to represent the remnant of a previous gastric ulcer. The gastric walls were pliable at fluoroscopy. Gastroscopy was recommended. Gastroscopy was performed on July 5th, 1952. The gastric rugae were thickened and appeared indurated in the antral and pyloric areas. Gastroscopic biopsies were taken. The gross impression was that of antral gastritis. The possibility of an infiltrating scirrhous carcinoma was also considered. Histologic section revealed marked gastritis with patchy atrophy. The patient was discharged July 7, 1952, on a bland diet and dilute HCl and instructed to return in a few weeks for follow-up. He returned July 18 with partial relief of symptoms. Repeat



gastro-duodenal x-ray again showed the presence of the previous deformity. He was discharged and returned again two months later because of exacerbation of symptoms and recurring weight loss. In addition he had some right subcostal radiation of distress. Physical exam was normal except for evidence of weight loss and marked epigastric tenderness. Urinalysis, blood count, urea nitrogen, blood sugar, amylase, lipase and cephalin cholesterol flocculation were all normal. BSP retention, however, was 21.7 and 21.3 percent at 30 and 45 minutes respectively. Chest x-ray was negative. A repeat gastric analysis again showed achlorhydria. Gastro-duodenal x-ray revealed an increase in the size of the gastric rugae over that of the previous x-ray. Gastroscopy was again performed on September 26 at which time the gastric

folds were found to be much larger than previously over the entire lower third of the stomach. Along the posterior greater curvature there was a large elevated area with multiple mucosal petechiae and scattered patches of whitish tissue resembling eschar. The impression was that of either infiltrating adenocarcinoma or lymphoma. Histologic section revealed anaplastic adenocarcinoma. Surgical exploration was recommended. On September 30 laparatomy was performed and generalized abdominal carcinomatosis was found with implants on the liver, peritoneum, omentum, and "drop metastasis" to the pelvic cul de sac. The stomach revealed a diffuse infiltrating adenocarcinoma involving the entire stomach. The origin appeared to be in the middle third of the body of the stomach. Multiple biopsies of metastatic lesions were taken and the abdomen closed. The patient recovered from operation and was discharged on October 10, 1952, for terminal care at home.

CASE NO. 2 B NO. 85651

This 41-year-old male was admitted to the Robert Packer Hospital August 24, 1954, with the chief complaints of hoarseness, wheezing dyspnea, anorexia, and weakness. He had enjoyed good general health until four weeks prior to admission at which time he was exposed to an environment heavily laden with dust and immediately thereafter began to complain of hoarseness and wheezing dyspnea. There followed in rapid succession chills, fever, general malaise, anorexia, dysphagia, and progressive weight loss of eighteen pounds. He was treated with Tetracycline by his local physician and following this had diarrhea for several days. Examination on admission to the hospital revealed a moderately dyspneic white male. Blood pressure was 134/78, temperature 99.2 degrees, pulse 72/min., and respirations 26/min. EENT examination by the Otolaryngologist revealed laryngeal infection. The vocal cords moved normally. Examination of the chest revealed scattered inspiratory rales bilaterally. The remainder of the examination was essentially negative. Urinalysis, blood count, serology, urea nitrogen, and blood sugar determinations were all normal except for a moderate leukocytosis of 12,750 with a normal differential count. Gastric analysis revealed a hyperchlorhydria with free acid reaching 67°. 14 x 17 steroscopic chest film revealed a small patch of resolving pneumonitis in the left lower lobe. Because of the hoarseness and dysphagia an esophageal x-ray was performed. The fluoroscopist followed the barium through

the stomach and duodenum and noted large polypoid rugal folds throughout the upper third of the stomach. The esophagus was normal. X-rays were repeated and again demonstrated persistence of the large polypoid mucosal changes in the upper stomach. The radiological impression was that of either a polypoid malignancy or tumor forming type of hypertrophic gastritis. Gastroscopy was recommended. Gastroscopy on August 30 revealed normal appearing pyloric and antral mucosa. Examination of the upper half of the stomach revealed large, swollen, red rugae with polypoid raised areas. The impression was that of hypertrophic gastritis. The presence of a polypoid malignancy was also considered, and because our operating gastroscope was away for repair, exploratory gastrotomy and biopsy of the gastric mucosa and incidental appendectomy were performed.

Frozen and permanent sections revealed hypertrophic gastritis without evidence of malignancy. His post-operative course was uneventful except for a transient episode of diarrhea which cleared on symptomatic treatment. The patient was discharged on September 11, 1954.

Summary and Comment

Two different types of gastric lesions occuring in two male patients of approximately the same age have been presented along with the clinical features and various procedures necessary to arrive at a correct diagnosis. Both cases had certain similarities, namely weight loss, anorexia, and evidence of gastritis.

Case No. 1 demonstrated the unfortunate fact that the occasional case of extensive gastric carcinoma eludes the most careful and repeated diagnostic studies until all is too late. In spite of the dismal result in this case, it does, however, represent the value of persistent and repeated procedures. There are several points in the history that obviously deterred early examiners from a suspicion of malignancy. The long history of chronic gastrointestinal symptoms of varying nature in this patient were undoubtedly passed off as functional by many of the examiners. Certainly one would reasonably assume that the primary lesion was present several years prior to his first visit to us in July, 1952. Probably the two most significant historical points in this patient's illness were those of a gradual, but definite, loss in weight over a five year period and the rather sudden but persistent change in symptoms six weeks prior to his first admission. Objectively, the presence of achlorhydria associated with hypertrophic and atrophic gastritis should have aroused immediate suspicion of malignancy. The progression of symptoms while under treatment and the rather marked changes noted by x-ray and gastroscopy between the first and final admission plus the positive gastroscopic biopsy were confirmatory of gastric malignancy. In spite of almost continual surveillance, there was a 2½ month lapse of time between the time the patient was first seen and the time the exact diagnosis was established.

Case No. 2 presents a picture of hypertrophic gastritis which on original x-ray examination appeared no less severe than the far advanced adeno-carcinoma of case No. 1. The clinical symptoms, while of much less duration, included weight loss greater than case No. 1, anorexia and vague respiratory and gastro-intestinal complaints. Had our operating gastroscope not been away for repair, we might have circumvented operation in this patient by serial gastroscopies with gastroscopic biopsy. Since the time element is of prime importance in the diagnosis and treatment of malignant or suspect malignant lesions, we believed immediate surgical biopsy by gastrotomy was justified in this case.

The above two case reports emphasize the authors' convictions that clinical evaluation, x-ray under fluoroscopic control, and gastroscopy must be correlated each with the other, *and never alone*, in order to be successful in reaching accurate conclusions regarding gastric pathology. We have found the Benedict type of operating gastroscope to be of distinct value in obtaining biopsies under direct vision of living gastric tissue which can be placed in fixing solution immediately upon withdrawal of the biopsy forceps and examined histologically in a good state of preservation.

1. Gastric carcinoma, diagnosed gastroscopically, neither felt nor seen by surgeon, also a contribution to the symptomatology of atrophic gastritis.

RUDOLF SCHINDLER, M.D.

A 69-year-old white male was referred for gastroscopy. He had had epigastric pain for 7 years, coming on right after eating, never at night time. His appetite was very good, no weight loss, and the bowel movements were regular. There had been no change of symptoms lately. At a recent x-ray examination a small niche-like projection of the lesser curvature was seen. Gastric analysis did not reveal free acid after alcohol, but small amounts of free acid after histamine. No definite diagnosis was made, but gastroscopy was recommended.—*Gastroscopy*: Antrum and angulus were readily seen. The pyloric activity was observed repeatedly. The antrum was not normal. There was a rather soft triangular projection from its anterior wall, the lower portion of which emerged from a longitudinal fold. Its edge was irregular and slightly angulated. Laterally to this angulation was a constant gray patch which we at first considered to be adherent mucus, but it proved to be so constant and did not change its position in spite of palpation and in spite of pyloric peristalsis that we must consider this a very superficial necrosis. Behind this protrusion sometimes a second protruding node was seen toward the pylorus the top of which was slightly yellowish. There were small rounded nodes protruding from the lesser curvature of the antrum. — In the body of the stomach, extensive atrophic changes were seen, namely thinning and graying of the mucosa with the appearance of blood vessels. —Gastroscopic impression: Pathology of the antrum, "this can be only carcinoma."

The patient was operated upon by Dr. Ethel Morel. When Dr. Morel saw me a few days later he told me that at operation he and his assistants had been unable to palpate any pathology of the stomach; that, trusting in my findings, he had opened the stomach and had seen an ulcer at the described place. This ulcer, however, was very shallow. There was no thickening of its surroundings, and it was certainly benign; he had resected it.

I was disconsolate for having made a wrong diagnosis, but when the microscopic sections came through, I was vindicated. It was a carcinoma, after all. Carcinomatous tubules, partly containing mucoid material were present, but the lesion was restricted to the mucosa. Complete atrophy of the mucosa was noted. There was a gradual transition from the atrophic mucosa to the tumor tissue.

This case is not unique by any means. Other cases of gastric carcinoma have been observed and published in which the surgeon was not able to palpate any pathology, and, in spite of positive roentgen or gastroscopic findings, disastrously closed the abdomen. The question came up in the reported case again: why was the surgeon unable to see the changes in the opened stomach which had been so readily and so correctly interpreted by the gastroscopist? The answer is that the gastroscopist looks into the distended, the surgeon into the collapsed stomach. In addition, the gastroscopist has been trained to notice the slightest irregularities of the gastric mucosa and to meditate about their significance. The surgeon, without such highly specialized training, would perhaps fail to understand the importance of apparently minor changes, even if he would see them in the distended stomach.

The case history is most illuminating. This man had had postprandial pain for 7 years. This distress had not changed, only accidentally was the small carcinoma discovered. It is unthinkable that this tiny lesion had existed for 7 years. What then was the cause of the patient's postprandial pain? There is only one explanation—the extensive atrophic gastritis, seen gastroscopically and confirmed microscopically.

2. Hypopharyngeal lesion due to obturator of esophagoscope.

Rigid gastroscopes almost never caused a hypopharyngeal lesion. Therefore, it was thought that the introduction of thin esophagoscopes armed with an obturator would never produce this lesion so dreaded when open tubes were used for esophagoscopy. This led to the construction of thin optical esophagoscopes, bearing an obturator. No lesion of any kind was observed in about 400 esophagoscopies done in a private practice and at Long Beach Veterans Hospital.

A 57-year-old white female patient was referred for esophagoscopy. She had constant regurgitation and dysphagia. At roentgen examination a hiatus hernia was found and a scar was suspected. Esophagoscopy was advised. The patient wore a thoracic brace for arthritis; she was reluctant to lie in the esophagoscopic left side position because of her arthritic pain, but was otherwise extremely cooperative. The first attempt at introducing the esophagoscope was not successful. Naturally, no force whatever was applied. When the obturator refused to slip easily into the esophagus, the instrument was withdrawn and the patient sat up, complaining of pain in her left shoulder which she attributed to her arthritis and which probably was due to the arthritis. At the second attempt the introduction of the instrument was easy. The hiatus hernia was seen and it was stated that no scar was present. The patient did not complain of any pain after the instrument was withdrawn. The referring physician drove her to her home town, 120 miles away, but after one hour's driving, pain in the neck and swelling developed. The sign of crepitation made it sure that an esophageal injury was present. The patient received antibiotics. Surgery was done the next day and a perforation of the posterior wall of the esophagus was found and drained.

The posterior location of the lesion makes one suspect that the flexible finger tip of the instrument was caught by an arthritic projection of the spine. Anyway, the lesson had to be learned from this case that even the thin obturator-bearing esophagoscopes are not devoid of danger—as no method is by which work is done inside the human body.

3. A case of discrepancy between suction biopsy and spontaneously eliminated gastric mucosa.

Suction biopsy of the stomach has become a widely used procedure. I had taken more than 120 suction biopsies with the Australian biopsy instrument and had been startled ever so often to find a lack of congruence between the gastroscopic and the microscopic picture. This was in full contrast to former experiences with biopsies taken surgically at laparotomies. They almost always revealed exactly the picture seen before at gastroscopy. The explanation was difficult. But recently a case was observed which perhaps sheds some light on this discrepancy.

A 43-year-old white female had a gastroscopic examination because of unexplained epigastric distress. Roentgen examination had been negative, but gastric analysis had revealed absence of free hydrochloric acid. At gastroscopy "extremely severe and unusual form of chronic atrophic hemorrhagic erosive gastritis" was found. Two biopsies with the Australian biopsy instrument were taken. They contained the whole depth of the mucosa and showed the typical picture of chronic superficial gastritis. There was no atrophy. A piece of tissue, however, was recovered from the Ewald tube through which the stomach had been drained previous to the gastroscopy. The piece was unusually large. Microscopic sections through this tissue revealed that there was gastric mucosa the aspect of which fully, in every detail, agreed with the gastroscopic picture. There was extensive destruction of glands, interstitial infiltration with hemorrhage and superficial ulceration.

Most suction biopsies are taken blindly. It may not be always possible to obtain them from places at which the decisive changes were seen gastroscopically. They are, furthermore, but small. In many cases they are of great value. However, in certain cases they may not represent all the facts regarding all parts of the stomach and thereby may be misleading.

The reported case appears to me of such fundamental importance that I will try to publish it in detail in Gastroenterology.